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**Article Title:** Industry Perceptions of Government Interventions: Generating an Energy Efficiency Norm

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**Acknowledgements**
This project was funded by a Social Sciences and Humanities Research Council of Canada Grant (430-2016-00392). The authors would like to thank Christina Gagliano-Veiga, Lindsay Lucato, Jonah Kahansky and Jae Page for their valuable contributions as research assistants on this project. All errors or omissions rest with the authors.

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**Abstract**

The world has been grappling with energy efficiency for decades. Much attention has been focused on how government can encourage energy efficiency, but there has been essentially none on industry perspectives of which government interventions are necessary to encourage these actions to become the norm. We address this gap through a study of industry views as to which government interventions prompt corporate actors to adopt energy efficiency measures across three industries (building and construction, energy/utilities, and hospitality) in Canada and the United Kingdom. Our findings demonstrate that industry responses mirror recent literature on the need for a mixture of policy tools. Where our findings depart from this literature is that we find a strong endorsement of the use of information provision by government and antipathy towards the use of economic instruments to engender new norms of behaviour. This finding is particularly significant given that much of the literature focuses on the benefits of economic instruments in advancing sustainability goals. We also find the express norms found in command and control instruments are, in the views of industry actors, necessary to make a shift from energy efficiency actions being carried out only by leaders within industry to these actions becoming standard.

**Keywords**
Energy Efficiency, regulatory toolbox, environmental law, environmental regulation, command and control, economic instruments, environmental information

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**Main Text**

## 1.0 Introduction

As we wake up to the realities of the climate crisis, the adoption of energy efficiency measures, as one of a raft of measures that can be taken to reduce greenhouse gas emissions, becomes more urgent. The utility of such measures is recognised in the Sustainable Development Goals, which include as a target, doubling the global rate of improvement in energy efficiency by 2030 (Goal 7.3). This target is challenging, not least because of the complexity of energy efficiency measures. Primarily such measures are implemented through the actions of individual households and companies and while some companies and individuals will voluntarily engage in energy efficiency actions many do not.

There is some literature considering how governments can best intervene to motivate energy efficiency actions (e.g. Kern *et al.,* 2017; Rosenow *et al*., 2017). The standard response is that policy mixes are necessary here as they are with other large-scale challenges and, as Kern *et al*. (2019) demonstrate, this focus has grown significantly in academic research over the past 30 years. Attention has been paid to various facets of these mixes including considering the interaction of instruments (Flanagan *et al.,* 2011; Gunningham & Sinclair, 1999), advances in the methodologies and boundaries of studying policy mixes (see Kern *et al.,* 2019 for an overview), the role of actors (Avelino *et al*., 2016; Howlett *et al*., 2009; Köhler *et al*., 2019; Lindberg *et al.,* 2019; Sabatier & Weible, 2014), and the evaluation of mixes (Borrás and Laatsit, 2019), among others. Further, we know policy mixes must build upon what already exists (Schot & Steinmueller, 2018), making their design and implementation much more difficult in practice than if a blank slate existed. It is also critically important to consider the breadth of instruments available (Gunningham *et al.,* 1998) and to evaluate and understand interactions between instruments (Goulder & Perry, 2008).

One area that appears, however, to be overlooked is the significance of norms in motivating energy efficient behaviour and, further, the role government interventions can play in engendering such actions. By norms we mean 'converging expectations about recognized patterns of behaviour or practice,' (Bebbington *et al*., 2012). In other words, actors within a given community (which may be restricted to a sector of industry) adopt particular actions because of (perceived) expectations that they are required to follow the same behaviours that they observe in other actors in their community (Brunnée and Toope, 2000). While the normative motivations of individuals have been widely investigated (e.g. Cialdini e*t al*., 1990; Bicchieri, 2017; Fehr and Schurtenberger, 2018; Rivis & Sheeran, 2003), less attention has been focussed on normative motivations within business. This is where our focus rests - on business norms. Where business norms have been considered, the focus has been largely on how the norm is created, or on how the motivation to comply develops (on norm development see for example, Donaldson & Dunfee, 1999; Bebbington *et al*. 2012; and on compliance see, for example van der Ven, 2014; and Maurer, 1971). None of the authors engage explicitly with the role of different forms of government interventions in engendering and maintaining normative motivations for corporate action. This appears to be a significant gap in the literature given that different instruments appear likely to support the process of norm production in different ways. The lack of consideration of normative motivations is somewhat surprising in that such motivations may

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be particularly important when the actions being addressed are diffuse, or take place "behind closed doors", making both public scrutiny difficult and enforcement of, for example, command and control instruments costly (Gunningham & Sinclair, 2005). They may also be important when the energy efficiency measures to be taken are costly or complex and so not easily motivated by appeals to the financial bottom line.

This empirical study is designed to better understand the relationship between energy efficiency norms and government interventions. We focus on three fairly consistently used categories of instrument in the realm of policy tool choice (Borràs & Edquist, 2013; de Bruijn & Hufen, 1998; Salamon, 2002) - command and control, economic instruments and information instruments. Evidence gathered from the perspective of corporate actors and industry associations is used as a way to better understand which policy instruments they view as having worked in the past to shift industry norms of behavior and which they believe will work to create norms for energy efficiency action. While the focus was designed to be with a view to how the lessons learnt could be used for future interventions particularly in relation to energy efficiency, some interviewees chose to draw, not just on past examples of norm creation in relation to efficiency, but also on other interventions.

The article proceeds in five parts: section 2, provides a discussion of the potential relationship between policy instruments and norms. Section 3 discusses the methodology of the study. Section 4 presents our results and discussion, drawing out how our findings expand the understandings currently held in the literature about government interventions. Specifically, we demonstrate that while a policy mix is important to encourage adoption and maintenance of corporate norms for energy efficiency action, the current emphasis on economic instruments appears misplaced, whereas greater focus must be given to the use of both command and control and information and education measures if normative change is to be engendered. Section 5 concludes and offers recommendations for future policy making.

## 2.0 Policy Instruments, and Norms

It is accepted that norms go through a lifecycle (e.g. Finnemore & Sikkink 1998; Hollander & Wu, 2011; Mahmoud et al., 2014) commonly conceived as beginning with norm emergence, proceeding to a tipping point by which adoption is increasing and "tipping into" a norm cascade which leads to the end point - internalization (1998). The role of policy instruments in engendering normativity, particularly in relation to diffuse problems such as energy efficiency, is not, however, as clear as one might hope. While the empirical part of this article evaluates various interventions from the perspective of those who would be targeted, here we hypothesize about how the three key policy tools we focus on might effect norm creation.

Command and control instruments appear likely to create the clearest norms. These might emerge through standards or codes that establish minimum energy efficiency levels, or requirements to install certain types of technologies or products. Traditionally the instrument of choice of environmental regulators (Winfield, 2010), command and control regulation has proven successful overtime eliminating fairly 'simple' and point source environmental challenges (e.g. lead in fuel or DDT). There has been the suggestion that this type of tool is not likely to be as appropriate for tackling complex environment and sustainability challenges (Gunningham, 2009) of which energy efficiency appears to be one. In part this may be due to the

difficulty of enforcing norms in diffuse situations. It seems likely, therefore that command and control regulation does not have much of a role to play in the generation of an energy efficiency norm. In addition, the literature indicates that industry is often unhappy with the inflexibility and cost that command and control regulations are known for (Gunningham, 2009). We might anticipate then that industry will be unlikely to see command and control tools as necessary or desirable in generating an energy efficiency norm.

In government decision making too, there has been a move away from command and control tools and towards market-based measures. In the language of norms there has been a move from laws which may expressly state a norm of behaviour to those that imply a norm of behaviour, or leave it to the market to generate a new norm. Economic efficiency and cost-effectiveness are key characteristics of this increasingly popular suite of policy instruments (Requate, 2005; Driesen, 2006; Richards, 2000) which encompass both quantity-based (e.g. tradable permits) and price-based mechanisms (e.g. taxes or subsidies). Economic instruments have proved popular amongst governments in addressing energy efficiency (Rosenow *et al*. 2019) and more generally. We see, for example, many European countries using taxes to deal with other environmental issues such as pollution, while countries such as Australia and the USA were some of the first to consider tradable permit systems relating to different forms of pollution (Requate, 2005).

The potential impact of using economic instruments to support norm development appears less clear-cut than the potential impact of command and control instruments. Their use may lead to three possible outcomes. The first is that economic instruments may enable continual development of standards. The use of taxes may, for example, encourage continual innovation to reduce the tax associated with a particular activity. In this scenario, rather than generating a single norm of behaviour that becomes embedded, economic instruments support continual generation of new potential norms, but none move through the lifecycle of norms to become fully embedded. Instead, either such a variety of responses is seen in response to the instrument that no clear putative norm emerges, or any putative norm that does emerge is replaced with a new technology or new behaviour too quickly to become embedded as a norm. This scenario may prove useful when governments seek to encourage rapid innovation in a sector and so may prove useful in the early stages of the norm lifecycle, but will not move behaviours and understandings past those early stages.

The second scenario is that economic instruments may prompt the generation of new norms of behaviour around emerging technologies and behaviours. In this scenario, a new technology or behaviour may emerge in response, for example, to an economic incentive. The emerging technology or behaviour may be recognised by many to be beneficial and so it may become widely adopted. Once adopted there may be little incentive for further innovation and so the new technology or behaviour becomes entrenched.

There is of course a third possibility: the targeted entities may decide not to change their behaviour in the way anticipated. For example, in the case of an environmental tax, a company may choose either to pay the tax or, if their marginal abatement cost is less than the cost of the tax, they may choose to alter their behaviour and reduce their taxable output. If the standard approach taken by companies is to choose to pay their tax then it may be that a norm emerges centering on the acceptability of paying more for the activity or product in question. In terms of

encouraging greater energy efficiency amongst companies such an outcome would prove problematic.

The third broad category of instruments identified in the seminal book *Carrots, Sticks, and Sermons* (Bemelmans-Videc *et al*., 1998) is the information instrument. Certain forms of information instruments, particularly those aimed at ensuring that the public has information with which to make decisions, such as reporting and labelling requirements, have been used quite extensively by both governments and other organizations.[1] In terms of norm generation, the role of information instruments is, however, even less clear than that of the other types of instruments. It may be that information instruments can be used to enhance understanding or awareness of the requirements of norms expressed or implied in other instruments. For example, there is an assumption that governments routinely provide information to companies on how to comply with regulations (Howlett, 2011). Alternatively, information instruments may be used to generate norms through social pressure, for example through environmental reporting requirements which may, through the provision of information to consumers and investors, influence market share (Bebbington *et al*., 2012). However, in it is also possible that the impact of reporting requirements will vary even within the same sector. For example, Winfield (2010) notes that reporting requirements are more likely to influence the behaviour of those companies that top the list of polluters (or whatever it is which is required to be reported on) than those in the middle of the pack. This shift in behaviour by the most polluting industries could have the effect of creating a new norm of behaviour centred on the actions taken by those formerly in the middle of the pack. It is not, however, certain that a new norm will emerge, nor that any emerging norm will be sufficient to achieve the desired level of reduction in pollution (or whatever is being reported on).

Information instruments may also prove problematic in relation to energy efficiency measures due to the nature of the problem they are designed to address. Energy efficiency measures tackle a problem of the global commons – the climate crisis. The literature regarding the utility of information instruments to address such problems provides conflicting results. In some instances, information instruments have been demonstrated to help to change behaviour by providing an incentive to act (National Research Council [NRC], 2002), but there is equally research demonstrating that, if improperly framed, information instruments can have a negative impact on the desired normativity (Cialdini, 2003). More generally, there is also literature to suggest that information instruments are most useful in prompting changes in behaviour in relation to easy, or least costly actions (Rosenow *et al*. 2017). As such information instruments may not be suited to addressing all types of problems. Energy efficiency may be one of the problem areas in which information instruments would not help in that focussing on the easy actions may not be sufficient to achieve the significant energy efficiency gains that are needed.

[1] See for example, http://apps.environment-agency.gov.uk/wiyby/37827.aspx; https://www.canada.ca/en/services/environment/pollution-waste-management/national-pollutant-release-inventory.html; http://ecolabelindex.com. Similarly, a search of a major legal journal database (Heinonline) returned 3263 entries relating to the use of labeling for environmental purposes.

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Given the varied picture the literature paints with regards to the utility of information instruments, we anticipate that they should be treated with caution in the context of norm generation, perhaps being used as a support for the generation of norms through command and control or market instruments. We anticipate that they are unlikely to be, or to be seen as being useful in generating a new norm of behaviour if applied on their own.

## 3.0 Methods

To obtain an understanding of how corporate actors viewed the role of government interventions in creating or ingraining norms of behaviour, a set of semi-structured interviews was completed.[2] Respondents were either representatives of individual companies, or were able to speak on behalf of a larger industry group because of their position in a trade of industry organization. The actors interviewed in this research have first-hand experience and knowledge of how government interventions have (or have not) worked in the past and they are in an excellent position to know the current norms within their industry and what looks to be on the horizon. In this way we not only get a picture of what respondents believe *could* impact normative change in the future, but also many examples of norm development that *has already* occurred which were used by interviewees to illustrate their comments.

Interviews were conducted in Canada and the United Kingdom in 2018. The choice to consider two countries was made, in part to see whether differences would emerge between respondents from the countries with similar, but different social and legal cultures, but also because there is often a notion that countries in the European Union (at the time the UK was still a member) are more advanced than those in North America in terms of energy efficiency. For example, whereas in the 1990s Canada's energy consumption per unit of GDP was roughly 1.5 times the UK's, by 2010 that ratio had changed to 2:1 (DECC, 2013). In addition, both the UK and Canada use policy mixes to promote energy efficiency measures, with a mixture of command and control, economic instruments and information used in each. In each country the precise mix of instruments has varied by industry and within Canada, there are also variations across provinces (see Haley *et al*., 2019 for a full review).

Instead of choosing to seek responses from corporate actors in all industries, three industries which factor strongly in the economy of both countries were focussed on – hospitality, building and construction, and energy/utilities. These three were chosen given their perceived difference in levels of engagement with energy efficiency actions and sustainability more generally and therefore, we might expect to see varying responses from the sectors on how norms for energy efficiency could be engendered by government interventions.

A total of 37 interviews were conducted with corporate actors from the three sectors in the two countries (see *Table 1*). Interviewees were recruited using a variety of methods, including as

[2] Ethical approval was provided by the University of Toronto Research Ethics Boards (Protocol Number 33665). Participants gave their consent verbally for phone interviews, with consent recorded by the researcher. Where interviews were conducted in person, consent was given by signature of participant on the consent form.

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part of a follow-up to a larger survey that some interviewees had completed, recruitment via emails/newsletters/social media sent through industry associations which had agreed to promote the research, and direct contact via publicly accessible email addresses for individual companies and organizations. These routes were supplemented by using a snowballing technique (Noy, 2008).

Table 1: Interview Details

| *Country* | *Sector* | | | |
|---|---|---|---|---|
| | Energy/Utilities | Hospitality | Building and Construction | Total |
| Canada | 7 | 3 | 10 | 20 |
| UK | 8 | 7 | 2 | 17 |

Semi-structured interviews were used to allow for further discussion in light of interviewee responses, but key themes remained consistent across all interviews. For the purpose of this paper, the most important theme focused on the type(s) of government intervention(s) interviewees felt would help move an action from being innovative or "above and beyond" what is expected, to an industry norm. Interviewees were asked specifically what they felt government could do to engender energy efficiency norms within their sector, though responses sometimes veered into things that had or had not already worked in terms of norm creation (energy efficiency related or more generally). Both types of responses yielded fruitful information to answer the research questions this article investigates.

Interviews were transcribed by members of the research team, but coded using NVivo by one research team member to ensure consistency of coding. The coder used a codebook created through discussion with other members of the research team, and a second coder did spot-checks on ~ 20% of interview transcripts to ensure alignment with the codebook. As did Partington (2002), we pre-selected codes to apply to the data based upon the research questions and the results of the literature review. In addition, we allowed further themes and codes to emerge from the data, a process more aligned to traditional Grounded Theory methodologies (Glaser & Strauss, 1967). Once the initial coding of the transcripts was completed, additional analysis, including axial coding was completed to relate the codes to one another and further solidify categories, themes, and where relevant, theories. Sentiment analysis was completed on the set of codes identified as 'government interventions' as the researchers discovered that participants would speak of command and control, economic, and information instruments in different ways and the outcomes of the analysis depended heavily on the sentiment expressed. The part of the analysis was done by two separate researchers, an important step especially in sentiment analysis where tone is much more subjective. The researchers assigned a 'positive', 'neutral', or 'negative' code to each intervention based on how the respondent's comment seemed to relate to the potential of the intervention to cause normative change in the industry.

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## 4.0 Results and Discussion

This empirical study improves our understanding of how actors within industry see government interventions and the ability of those interventions to influence norms of action for energy efficiency. Detailed results are presented below by sector, but first we provide an overview of the sentiment analysis in an attempt to demonstrate the strong opinions held about certain interventions and their past and future potential for norm development. In keeping with the volume of literature suggesting the necessity of policy mixes especially when tackling sustainability-related issues (see Kern *et al*., 2019 for an overview), the sentiment analysis demonstrated broad support for the use of policy mixes to inculcate new norms for energy efficiency in the corporate sector. Support for the use of policy mixes can be most simply demonstrated by the fact that the majority of respondents (75%) discussed more than one type of government intervention in their responses (see *Table 2*).

Table 2: Percentage of Interviewees by Number of Government Intervention Mentioned

| | | *Number of Types of Interventions Coded* | | | |
|---|---|---|---|---|---|
| *Country* | *Sector* | 0 | 1 | 2 | 3 |
| Canada | B&C | 0 | 30% (3) | 10% (1) | 60% (6) |
| Canada | E&U | 0 | 14% (1) | 85% (6) | 0 |
| Canada | H | 33% (1) | 33% (1) | 33% (1) | 0 |
| UK | B&C | 0 | 0 | 50% (1) | 50% (1) |
| UK | E&U | | 12.5% (1) | 0 | 87.5% (7) |
| UK | H | 0 | 28.5% (2) | 43% (3) | 28.5% (2) |
| Total | | 3% (1) | 22% (8) | 32% (12) | 43% (16) |

The sentiment analysis did, however, demonstrate quite distinct variations in tone of discussion of the three instruments. As might be anticipated, information interventions (n=73) had a largely positive rating in terms of inducing normative change - 71% (n=52) positive and 1% (n=1) negative rating. What may at first appear more surprising is that economic instruments (n=51) were the only instruments to have more responses coded with negative sentiment. 43% (n=22) of economic intervention codes were considered to be negative (the remainder split fairly evenly between neutral and positive sentiment). This result may, of course, be explained by the fact that economic instruments are unlikely to set out clear norms of behavior, or standards to meet, though as the discussion below illustrates, the reasons for the antipathy towards economic instruments appear to have broader roots. One might anticipate that command and control regulation (n=82) would be viewed in strongly positive terms with regard to its ability to generate normative change, though it may not be liked by industry because of this. Indeed, this type of instrument had 60% (n=48) positive coded references for normative change, though, perhaps surprisingly, it also had a 12% (n=10) negative rating for this.

Overall the sentiment analysis indicates that respondents felt much more positive about the ability of information and command and control instruments to transition sectors to more energy efficient norms than they did about economic instruments. Breaking these trends down further yields some interesting sector and/or country specific findings which are discussed more fully in the sub-sections below. These sentiment trend findings by sector should, however, be considered with caution, as the number of codes in some cases is very low. The analysis is strengthened through a more detailed discussion of interviewee responses by sector.

*Building and Construction Sector*

Given the limited number of responses from the building and construction sector in the UK, it is difficult to determine themes that emerge in that country and sector specifically. What we can say is that sentiment trends are consistent with those presented above. Command and control regulation is seen as positive in at least 50% of codes for both countries (n=16 in Canada; n=7 in UK), coded references to economic interventions are more negative than positive or neutral, and information is dominated by positive codes. We also see alignment between the UK responses and some of the themes that emerge from the ten interviews in the Canadian sector, notably the role of command and control measures in shifting norms of behaviour. In fact, and somewhat as anticipated, eight of the ten Canadian respondents and both UK respondents discussed the need for requirements, codes, standards, regulations, by-laws, to be introduced as a way to shift norms towards more energy efficient actions in the building and construction sector. Interestingly, UK B&C Interviewee 1 suggested that the need for regulation to make energy efficiency actions the norm is stronger than for other issues because at the smaller-scale of individual developments the impact is sometimes hard to see.

In addition, the interview data clearly pointed to the role information and education play in aiding the transition to more energy efficient norms in the sector. The Canadian respondents indicated information should be targeted at educating builders and tradespeople on new skills and ways to abide by regulations (B&C Can 2, 4, 5); construction clients who may not otherwise seek to understand innovative approaches and therefore not ask for them in bids (B&C Can 1, 3 and 6); and society or consumers more generally (B&C UK 2; B&C Can 4, 5). These responses demonstrate the overall importance of information in changing norms of action to be more energy efficient. Equally importantly it suggests that a one-size fits all approach is unlikely to work and instead different forms of information instruments will be needed.

Overall, these findings suggest that corporate actors in the building and construction sector recognize the importance of command and control instruments in shifting norms of industry toward more energy efficient actions. Further, they indicate that as regulatory provisions are changed, those changes must be accompanied by education for industry members. To get further advancements – perhaps beyond what regulation requires – it is also essential to make information available to construction clients (through direct campaigns or through the presence of Centres of Excellence). Clients are unlikely to seek out ideas for new innovations on their own and so they are unlikely to request energy efficient actions when soliciting bids unless they have been provided information on energy efficiency measures in advance. This in turn means that those submitting tenders are unlikely to themselves seek to advance construction towards more

sustainable practices, particularly where doing so would add to the cost of the build. Finally, the suggestion that economic instruments are the way to change norms within this sector is not borne out by the results of our study – a small number of interviewees mentioned subsidies or incentives, but when they did, the long payback period associated with energy efficiency was highlighted as a barrier to the development of new norms in response to economic instruments. In part the payback period simply put actors off adopting the energy efficiency measures. Perhaps more concerningly, respondents also noted that policy had in the past, not remained consistent throughout the payback period. Incentives had been removed, or revised before the payback period had ended and this raised concerns about the utility of such instruments in future. Where economic instruments were mentioned more positively it was as part of a policy mix that included better information or command and control regulations.

*Energy/Utilities Sector*

The interviews with representatives in the energy and utilities sector did not give rise to such clear themes as those from the building and construction sector. Perhaps this has to do with the fact that respondents varied widely in their role within the sector (from those who worked with renewable energy to utilities managers, and others). Nevertheless, some consistent findings related to the role of government interventions in norm shifts emerged. While the results for the energy sector broadly mirrored the general trends in the sentiment analysis for command and control and information instruments, they diverged with regards to economic instruments. UK respondents viewed the ability of economic instruments to engender normativity quite negatively (50% of coded references, n=10) while Canadian respondents were largely neutral on this type of intervention (62%, n=5).

The responses from UK participants very clearly were focused upon government interventions that had failed in the past – specifically economic instruments tied to large-scale government policies such as the Green Deal. In fact, five of the eight UK interviewees in this sector made clear references to poor design, implementation, and planning around economic interventions like funding, subsides or tax incentives. Comments such as the one made by UK E 4 were common. They noted that "…the Green Deal … was a fairly low interest loan attached to your property which would fund new insulation, renewable systems or something of that kind. That didn't go down at all well." This sentiment was echoed by two respondents in Canada, but the emphasis on the challenges with economic interventions was much more evident amongst the UK respondents.

This divergence from the general trend may be due to the fact that often the respondents were speaking of interventions that impact clients of the sector (individuals, commercial operations, etc.) and not themselves. Thus, it may not be possible for the energy industry to know how effective these instruments are in engendering normative change within their end users. However, the responses appeared to indicate that the problem with economic instruments, from the perspective of the energy industry is that end users have a choice as to whether to modify their behaviour or not. The actors the instruments are aimed at may choose to pay increased taxes, or forego grants if that appears 'easier' than adopting an energy efficiency measure. This may be particularly true where there is no specificity as to the measure to adopt. Further, there seemed to be consensus (at least amongst the UK responses) that the lack of policy consistency

associated with the use of economic instruments in practice has proved problematic. Thus the changes to the rates provide for the installation of new technologies, the removal of programmes before the payback period has been completed, etc. seen where economic instruments have been used previously have led to concern amongst the energy industry about the utility of this type of instrument to shift norms.

Similarly, the challenge of long paybacks for energy efficiency technologies and actions was again a key issue for a number of respondents, with one (UK E 2) going as far as suggesting that "[government] need to figure out a way that they can get over this payback period that is more sophisticated than simply telling business that they should expect longer pay back periods". Clearly cost and economics are integral to shifts in norms of behaviour associated with this sector, but the way it has been handled in the past has led actors to be skeptical of how it can truly overcome hurdles such as payback period and reaching a point where such actions are the norm.

Another clear theme across both countries had to do with the role of command and control interventions and how they do and could shift norms of behaviour. Interviewees in Canada discussed the role of regulatory requirements within the utilities sector and the strength of this type of intervention in changing behaviour. UK interviewees spoke of several programmes which require energy efficiency evaluations on properties (rentals and sales) and how these programmes had increased awareness of energy efficiency more generally. Perhaps UK E 6 made the clearest statement about the role of coercive government interventions when they noted "I think it's better for government to concentrate on not so much on incentives, but more on compulsion to do things."

Akin to the general sentiment analysis and the findings from the building and construction sector, respondents in the energy sector felt there was a strong role for information to play in shifting or engraining norms of behaviour around energy efficiency. Though some felt government should specifically take on the role of providing the information (through for example highlighting existing reporting schemes or developing a naming and shaming program), others thought it did not necessarily have to be a government role, but that information in some form was important to norm development around energy efficiency actions.

*Hospitality Sector*

The hospitality sector again showed some divergence from the general sentiment trends. Whilst it was strongly positive towards the ability of information instruments to engender new norms of behaviour, there was divergence in other areas. With regard to command and control instruments UK respondents emphasized positive sentiment (71%, n=5) while Canadian ones were more neutral on the ability of this intervention to engender normative change (66%, n=2). There was also a divergence in respect of economic instruments. Canadian hospitality respondents did not mention these interventions at all, while UK hospitality respondents were somewhat split in terms of sentiment for the ability of this intervention to engender normative change (44% positive, n=4; 33% negative, n=3).

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These variations across the countries may, perhaps, be attributed to the fact that context plays a huge role in this sector, and as UK H 1 noted "…the perception is that the country itself will be tackling those issues by regulation…it will be developing a regulatory framework which has environment built into it and I'm expecting the company too will comply with that". Nevertheless, we can see some similarities emerging both within the hospitality sector and with what the other sectors have shown.

First of all, the problems caused by variation in policy whilst economic instruments have been used was again identified by three of the UK respondents . Yet, in this sector, this was coupled by much more positive or optimistic sentiment towards these same types of interventions, with one respondent even saying "… the obvious answer for that is … some form of you know financial incentive … would encourage them to move forward on that sort of project" (UK H 3). This was echoed by five of the seven UK hospitality interviewees. Coercive, command and control intervention such as bans, or requirements to undertake certain actions were mentioned by some interviewees (UK 4, 5; CAN 1), but the focus on this type of policy tool was much less. Finally, the role of information was again shown to be important to many respondents (UK 1, 2, 3, 5, 6; CAN 1, 2), but the type of information and focus varied greatly from the public needing to be educated about certification standards for changes in behaviour to happen, to developing a recognizable 'green' label (UK 5, 6), providing information guides for industry on how to be more energy efficient (UK 2), the need for research to push change (CAN 2), and the need for education for hotels on the local context (UK 1; CAN 1).

As a whole, this industry was not as cohesive in their ideas of what government intervention(s) might push norms of behaviour in relation to energy efficiency, though they did lean much more strongly towards economic incentives as being necessary as well as command and control regulation. One other interesting finding is the emphasis placed on the relevance of the wider context of the multi-national corporation of which the UK or Canadian companies were part. Thus, pressure from head office, may cause changes within the UK or Canadian branches. What was not clear was whether head office itself was responding to regulations or social norms in other parts of the world causing these to filter through to the UK and Canadian sectors.

## 5.0 Conclusion and Recommendations

As Gunningham *et al*. (1998) noted in 1998, governments are increasingly limited in their resources. One way to help alleviate these pressures is to harness innovative instruments or policy mixes to achieve changes. The idea that norms, at least once fully internalized, are monitored and enforced by society or industry themselves is an interesting one, and one of the reasons we chose to look at how government can initially help create or internalize norms for energy efficiency action. Ideally, once in place, fewer resources might be necessary to monitor and enforce. In this light, we provide some suggestions for how government interventions can be brought together in an effective policy mix to help shift corporate behaviour towards actions that are energy efficient with a view to these behaviours ultimately becoming normalized.

In providing these recommendations we are conscious that the variations we have demonstrated across sectors are not, in general, so great that we can make distinct recommendations for each of

the industry sectors discussed in the paper and so general recommendations are provided. The one exception to this is in relation to sector sentiments towards economic instruments. However, while the hospitality sector as a whole was not as negative towards economic instruments as the energy sector was, the lack of comment on these measures by Canadian respondents means that no clear conclusions can be drawn for the hospitality sector with regard to recommendations for that sector. Across the two countries sentiment towards the use of command and control and information instruments was also too similar to draw specific conclusions and recommendations. There does, however, appear to be a divergence with regard to economic instruments. UK respondents, in particular those in the energy sector, generally expressed more negative sentiments towards economic instruments than Canadian respondents. This difference appears to be due to the lack of policy consistency in the UK, an issue which was not raised to such a degree by the Canadian respondents. Policy consistency does therefore form one of our recommendations below.

Turning to our recommendations: first, this empirical study underlines the importance of using a policy mix when attempting to create or internalize norms of action for energy efficiency within industry. While this is certainly something that research has focused upon recently, it is important to realise this is not just an academic finding or one informed by the opinions of those designing instruments, but also something very much held by actors within industry (i.e. those targeted by these interventions). The views of industry on policy mixes are not well represented in the policy mix literature (Rogge & Reichardt, 2019), with some notable exceptions (Lindberg *et al*., 2019, for example) and this article, therefore contributes to filling this gap in understanding.

Our research also confirms a more recent trend in policy mix research which emphasizes that new policy interventions are necessarily constrained by what has been done in the past (e.g. Schot & Steinmueller, 2018; Kern *et al*., 2019). The variations in responses by sector we found also demonstrate that care is needed in considering the context in which policy mixes are to be introduced. This was very clearly illustrated by the challenges repeatedly reported by interviewees particularly in the construction and energy sectors in relation to previous iterations of incentive-based economic instruments. Their responses underscore the fact that any new policy instruments must overcome the now well ingrained skepticism of this type of instrument. Interestingly, the need to overcome skepticism appears to magnify the need for effective information and education programmes to accompany any new measures.

Second, from the perspective and experience of respondents in industry, command and control instruments (particularly when combined with various types of information and education instruments) appear to offer the greatest likelihood of energy efficiency measures gaining traction and becoming embedded as industry norms. This finding is a significant addition to our understanding of coercive action as command and control regulatory tools are typically considered to be at their most effective when dealing with point source pollution, or less complex environmental challenges than energy efficiency (Gunningham, 2009). Further, the frequent references to information and education for companies as a necessary form of government intervention for norm generation highlights the importance of a type of policy instrument that has been largely neglected as a focus in the policy instrument literature (Ingold *et al*., 2019 is a

notable exception). Moreover, industry representatives made it plain that information and education measures are required in relation to all types of energy efficiency actions, not just in relation to easy, or least costly measures, such as providing information to consumers through smart meters to encourage reductions in energy usage (Rosenow *et al*., 2017). The idea that a mix of instruments is important confirms findings from others studying complex and 'wicked' problems related to sustainability and other global challenges (see Kivimaa & Kern (2016) and Bouma *et al*. (2019), and the special issue published by *Research Policy* in 2019 on this topic (Kern *et al*., 2019).

Third, the findings from the empirical study also challenge some commonly held assumptions about best practice usage and effectiveness of different tools. Of particular note was the relative lack of support for economic instruments in terms of engendering normative change. This came across particularly clearly in the responses from the UK energy sector though the hospitality sector expressed less aversion to these instruments than the other sectors. The general antipathy of industry towards economic instruments demonstrated in our empirical study may be due to the point made at the start of the paper. These instruments may or may not imply potential norms of behaviour. If they do imply norms of behaviour they may imply more than one potential norm such as 'pay more to pollute' or 'adopt new energy efficiency measures'. In addition, any norms they do imply may be extremely vague. Thus, in terms of energy efficiency, companies face at least two issues. First, as responses to energy efficiency are diffuse and take place behind closed doors, companies may not know what measures their competitors are taking. Secondly, they may not know what measures are possible. Both possibilities mean that practice cannot easily converge around particular behaviours which means that norms of behaviour cannot easily emerge. It is perhaps these reasons that led industry to portray economic instruments as not particularly helpful in generating new norms of behavior. Given that this type of instrument is particularly popular amongst governments, at least in Europe, (Rosenow *et al*, 2017) the views from industry are concerning. They also echo findings elsewhere, for example, in relation to the low carbon innovation (Uyarra *et al*., 2016). There is therefore a need for further care in the use of economic instruments within the policy mix.

To close, we suggest that our findings are a critical piece of the puzzle for governments seeking true change in industry. While we have focussed on change in the context of energy efficiency, we anticipate that these findings are equally applicable in respect of other diffuse problems and thus enhance the broader literature on policy instrument choice in respect of these types of problems. In particular, our empirical study demonstrates that governments should not shy away from coercive action to instill new norms of behavior (particularly around energy efficiency), but rather they should do so in a way that also incorporates more information and education than has been used in the past. There is, of course a rider, which is that information and education must be properly targeted and designed. In addition, this empirical study demonstrates that policy consistency is particularly important when economic instruments are used. Such instruments must be carefully designed and not subject to change or removal before a new norm of behaviour has become embedded in the target industry. Finally, the findings from this empirical study highlight that while perspectives on efficiency and effectiveness from government and society

are undeniably important, the way that industry sees and responds to interventions targeting them must be acknowledged within the policy design process and literature.

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